

while the tissue is practically neutral in February and March. He states also that there is a general correlation between acidity of tissues and the relative activity of diastase and maltase as determined from amount of glucose and maltose in tissues. Maltose is most abundant when acidity is high and near the optimum for diastase. Glucose is found to increase in quantity in the late winter at a time when tissues are practically neutral, acidity being near the optimum for maltase activity. An average of eight determinations of maltose made in November, when acidity is highest, is 1.99 per cent, and an average of eight similar determinations made in March, when tissues are practically neutral, shows 1.86 per cent maltose. This difference seems too insignificant to conclude that maltose is present in larger quantities at a time when acidity is highest, especially when maltose determinations vary from 0.46 to 3 or 4 per cent. The only conclusion concerning this, in the reviewer's judgment, is that maltose is always present and in very variable amounts.—JOHN M. ARTHUR.

Ecology of the Gangetic plain.—In a paper of more than usual interest, DUDGEON⁶ has included the results of his studies of a region whose ecology has been almost unknown. This part of India, lying immediately about Allahabad, has a distinctly periodic climate, with about 90 cm. of rainfall, and three distinct seasons. The rainy season, from June to the end of September, has high precipitation, high humidity, high temperature, and low insolation; the cold season, from October to the end of February, has high humidity, high insolation, but low rainfall and low temperature (mean 35° F. to 55° F.); the third or hot season, has low rainfall and humidity, but high insolation and temperature (mean 80° F.).

The existing vegetation is shown to be influenced quite as much by the biotic factors of a human population of 530 persons and 470 domestic grazing animals per square mile as by the nature of the climate. Most of the area is covered with dry meadow and thorn scrub, but it seems certain that these associations, now balanced against intense human influence, are really the retrogressive remains of a much richer climatic vegetation. The author seems to have thoroughly established his final conclusion, that "if the retrogressive influence of the biotic (human) factors were removed, the vegetation would pass through the progressively higher forest stages of (1) fully developed thorn scrub, (2) pioneer monsoon deciduous forest, and (3) climatic climax monsoon deciduous forest, a forest of considerable density and luxuriance." This forest, as shown by adjacent regions, would show *Terminalia tomentosa* and *Tectona grandis* as dominant, and would also contain *Sterculia* spp., *Bombax malabaricum*, *Anogeissus latifolia*, *Buchanania latifolia*, *Eugenia jambolana*, and probably *Acacia catchu* and *Shorea robusta*.—GEO. D. FULLER.

⁶ DUDGEON, WINFIELD, A contribution to the ecology of the upper Gangetic plain. Jour. Ind. Bot. 1:1-29. figs. 9. 1920.